UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
SELLERS, DANIEL R

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _07 December 2005_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-3,5-7,9-15,18,19 and 25_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-3,5-7,9-15,18,19 and 25_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _27 September 1999_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2.   Claims 1-3, 5-7, 9-15, 18, 19, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shishido and Ware et al., U.S. Patent No. 5,537,573 (hereinafter Ware).

3.   Regarding claim 1, see the previous office action rejection of claim 1 under 102(e). Shishido teaches all the features of claim 1 except the limitation "deleting said block…." Ware teaches a cache system for reducing latency and improving cache hit rate, or the likelihood that needed data is stored in a faster cache memory. Ware teaches the feature of receiving information indicating the period of time a data block is retained and the feature of deleting accordingly (Col. 6, line 62 – Col. 7, line 8). It would have been obvious for one of ordinary skill in the art to combine the teachings of Shishido and Ware for the purpose of providing a high cache hit rate and low latency (Ware, Col. 2, lines 52-54). A high cache hit rate, in this context, would reduce the need for retrieving the reused data block over and over again from a slower solid-state memory or an even slower spinning drive.

4.   Regarding claim 2, the further limitation of claim 1, see the previous office action and the preceding argument with respect to claim 1. The combination of Shishido and Ware teach these features.

5.   Regarding claim 3, the further limitation of claim 1, see the previous office action.

The combination of Shishido and Ware teach this feature.

6.   Regarding claim 5, the further limitation of claim 1,

| ... wherein the period of time begins.... | See Ware, column 6, line 66 – column 7, line 1. Ware teaches that a period of time starts when the data is read in, or accessed. It is taught previously, in Ware, that data is read in to the cache when it is accessed for the first time. |

7.   Regarding claim 6, the further limitation of claim 1, see the preceding argument

with respect to claim 1. Ware teaches that a predetermined period of time or a

predetermined number of accesses determines when a block of data is removed from

the cache

8.   Regarding claim 7, the further limitation of claim 1, see the preceding argument

with respect to claim 5. Ware teaches the use of a predetermined period of time to

determine the time of deletion, and it is inherent that a predetermined time can be

referenced from the start of processing.

9.   Regarding claim 9, the further limitation of claim 1, see the preceding argument

with respect to claims 5 and 7. Shishido, further, teaches the use of timing events,

which inherently can be used to indicate the start of the period of time for retention.

10.   Regarding claim 10, the further limitation of claim 1, see the previous office

action. Shishido teaches the use of added information to compress the file. Ware

teaches the use of timing information for retention and deletion purposes. It is obvious

to combine the two as stated previously.

11.   Regarding claim 11, the further limitation of claim 1, see the preceding argument

with respect to claim 1. Ware teaches the use of timing information for retention and

deletion purposes, wherein Ware is proposing a solution to cache misses and improving

cache hits. Ware is also attempting to use the cache more efficiently (Col. 5, lines 20-

24). It is inherent to delete the block of data after it is used for a final time for these

reasons.

12.   Regarding claim 12, the further limitation of claim 1, see the preceding argument

with respect to claim 11. It is inherent that to improve cache hits, the block would be

retained until it was unnecessary.

13.   Regarding claim 13, the further limitation of claim 1, see the preceding argument

with respect to claim 11. It is inherent to delete the information when it becomes

unnecessary for the purpose of efficient memory usage.

14.   Regarding claim 14, the further limitation of claim 1, see the preceding argument

with respect to claim 1. In this context, it is inherent that a predetermined bit string, in

either hardware or software, defines a predetermined time period.

15.   Regarding claim 15, see the previous office action. Shishido teaches these

features except for the information indicating a period of time for retention. It is inherent

that the method Shishido discloses includes control means for memory management,

and deleting, overwriting, or reallocation are basic functions of a memory management

system. As stated previously, Ware teaches the use of timing information for the
purpose of retention.

16.   Regarding claim 18, the further limitation of claim 15, see the previous office
action. The combination of Shishido and Ware teach this feature.

17.   Regarding claim 19, the further limitation of claim 15, see the previous office
action. The combination of Shishido and Ware teach this feature.

18.   Regarding claim 25, see the preceding argument with respect to claim 15. The
combination of Shishido and Ware teach these features.

Response to Arguments

19.   Applicant's arguments filed December 07, 2005 have been fully considered but
they are not persuasive. As acknowledged by the applicant, Shishido teaches a method
for MIDI file compression. The file compression can be considered a method of dividing
a MIDI file, a file comprised of musical notes, on a time basis, wherein the file comprises
repeated blocks of musical notes. Shishido relies on a decoder to decode the
compressed file and "a musical data storage medium (13) for storing the decoded
musical data temporarily" (Col. 9, lines 47-48). The storage medium (13) inherently has
a limited size for temporary storage, wherein blocks of data are inherently written and
deleted. Shishido does not teach a time period indication for deleting the data from the
temporary storage, however Ware teaches this missing feature. Ware teaches a cache
that relies access times to determine what is removed from the cache, or the temporary
storage medium (Col. 6, line 62 – Col. 7, line 8).

20.   In response to applicant's argument that there is no suggestion to combine the

references, the examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention

where there is some teaching, suggestion, or motivation to do so found either in the

references themselves or in the knowledge generally available to one of ordinary skill in

the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re*

Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Ware teaches a

reason for the combination (Col. 2, lines 52-54).

21.   Regarding claims 1-3, 5-7, 9-15, 18, 19, and 25, see the current rejections under

35 USC 103.

Conclusion

22.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Rosenau et al., U.S. Patent 5,598,352, Gannon, U.S. Patent

5,990,407, and Abrams et al., U.S. Patent 6,658,309. These references were included

in the first office action on the merits.

23.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Daniel R. Sellers whose telephone number is 571-272-

7528. The examiner can normally be reached on Monday to Friday, 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Sinh Tran can be reached on (571)272-7564. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

SINH TRAN
SUPERVISORY PATENT EXAMINER

DRS